NOVEMBER/DECEMBER 2025

23PECS24A — ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

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1. Define: Production System.

2. List some of the Task Domains of Artificial Intelligence.

3. What is meant by Constraint Satisfaction?

4. State four properties of Knowledge Representations.

5. Write some simple Facts in Propositional Logic.

6. Translate the sentence "Apples are Food" into Predicate Logic.

7. Define: Big Data.

is the need for Machine Learning?

two types of Feature Selection technique.

some real time applications of Machine ing.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

Exemplify any two AI Techniques.

OR

How to define the Problem as a State Space Search? Explain it.

Illustrate the simplest way to implement Hill Climbing.

Or

Write short notes on Means-Ends Analysis.

How to represent Knowledge declaratively in Rule-based System? Explain.

Or

Explain the Logic Programming with suitable examples.

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14. (a) How does Machine Learning Works? Explain it.

Or

(b) Briefly discuss on "Leveraging the Power of Machine Learning".

15. (a) Summarize on "Data Preparation" in Machine Learning.

Or

(b) Write an overview about the Machine Learning Cycle.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss in detail about the General Production Systems.

17. Expound the working process of AO* algorithm.

18. Write the Resolution Algorithm for Predicate Logic and also give some examples.

19. Describe the various categories of Machine learning.

20. Analyze and explain the Impact of Machine Learning on Applications.

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